

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1: (Currently Amended) A process for fabricating a thin-film device, said process comprising:

forming a conducting layer composed of an anodically oxidizable metal on a substrate;
etching said conducting layer to form a plurality of bus lines having upper surfaces parallel to said substrate and inclined side surfaces and connection portions electrically connected to said bus lines and having upper surfaces parallel to said substrate and inclined side surfaces, the side surfaces of said bus lines and the side surfaces of said conduction portion are outwardly protruding with respect to a line passing through upper and lower edges of the side surface, wherein said etching step is carried out so that the side surfaces of said bus lines and the side surfaces of said connection portions are inclined at angles within the range from 20 degrees to 60 degrees, on average, with respect to said substrate;

anodically oxidizing said bus lines and said connection portions so that said bus lines and

U.S. Patent Serial No. 09/761,753

said connection portions include inner conducting portions and outer insulating oxide films covering said inner conducting portions, respectively.

Claim 2: (Canceled)

Claim 3: (Previously Presented) A process according to claim 1, wherein said etching is carried out so that the side surfaces of said bus lines and the side surfaces of said connection portions are inclined at angles within the range from 30 degrees to 50 degrees, on average, with respect to said substrate.

Claim 4: (Previously Presented) A process according to claim 1, further comprising forming a mask on said conducting layer prior to said etching, and ashing said substrate including said mask between said mask forming and said etching.

Claim 5: (Previously Presented) A process according to claim 1, further comprising forming a mask on said conducting layer and baking said mask prior to said etching, wherein the temperature for baking said mask is so set that said mask will have a relatively small rigidity so that an outer portion of said mask is pushed up from said conducting layer due to a reaction gas in said etching.

U.S. Patent Serial No. 09/761,753

Claim 6: (Previously Presented) A process according to claim 5, wherein the temperature for baking said mask is not higher than 115°C.

Claim 7: (Canceled)

Claim 8: (Original) A process according to claim 5, wherein said etching step is carried out so that the angles between the upper surfaces and the side surfaces of said bus lines and of said connection portions are obtuse angles.

Claim 9: (Original) A process according to claim 1, further comprising an ionic milling step for removing part of the outer oxide films to expose the inner conducting portions after said step of anodic oxidation.

Claims 10 - 21: (Canceled)

Claim 22: (Previously Presented) A process for fabricating a thin-film device, said process comprising:

forming a conducting layer composed of an anodically oxidizable metal on a substrate;

etching said conducting layer in a predetermined shape;

forming a second oxide film on said conducting layer by anodic oxidation after a first oxide film with a thickness is formed on said conducting layer; and

U.S. Patent Serial No. 09/761,753

washing said substrate, whereby said first oxide film is removed by said washing and said second oxide film is not removed by said washing but remains on said conducting layer so as to cover said conducting layer.

Claim 23: (Original) A process according to claim 22, wherein said anodically oxidizable metal includes at least one of Al, Ta, Al-Si, Al-Ta, Al-Zr, Al-Nd, Al-Pd, Al-W, Al-Ti, Al-Ti-B, AlSc, Al-Y, Al-Pt, and Al-Pa.

Claim 24: (Original) A process according to claim 22, wherein said first oxide film is one of a naturally oxidized film or a hydrated film formed on the surface of said anodically oxidizable metal.

Claim 25: (Original) A process according to claim 22, wherein said first oxide film has a thickness from 50 nm to 100 nm.

Claim 26: (Previously Presented) A process according to claim 22, wherein said washing is executed using ultrasonic waves of not lower than 200 KHz.

Claim 27: (Original) A process according to claim 22, wherein said thin-film device is a substrate including thin-film transistors.

U.S. Patent Serial No. 09/761,753

Claim 28: (Previously Presented) A process according to claim 27, further comprising forming an insulating film on said substrate and forming a semiconductor layer on said substrate after the second oxide film has been formed, wherein the etching of said conducting layer forms gate electrodes and gate wirings.

Claim 29: (Previously Presented) A process according to claim 27, further comprising forming a semiconductor layer on said substrate and forming an insulating film on said substrate prior to forming said conducting layer, wherein the etching of said conducting layer forms gate electrodes and gate wirings.

Claim 30: (Previously Presented) A process according to claim 22, wherein the etching of said conducting layer forms gate electrodes having upper surfaces parallel to said substrate and inclined side surfaces.

Claim 31: (Previously Presented) A process for fabricating a thin-film device, said process comprising:

forming a semiconductor layer having a predetermined shape on a substrate; forming an insulating film on said substrate to cover said semiconductor layer;

forming a conducting layer composed of an anodically oxidizable metal on said substrate in such a shape as to cover a portion of said semiconductor layer and to form gate electrodes

U.S. Patent Serial No. 09/761,753

having upper surfaces parallel to said substrate and inclined side surfaces;

anodically oxidizing said gate electrodes;

forming said insulating film into a predetermined shape using said gate electrodes

including the anodically oxidized film as a mask; and

injecting impurities into said semiconductor layer using said gate electrodes including said anodically oxidized film and said insulating film as a mask to form an offset in said semiconductor layer.

Claim 32: (Original) A process according to claim 31, wherein said thin-film device is a substrate including thin-film transistors.

Claim 33: (Original) A process according to claim 31, wherein said anodically oxidizable metal includes at least one of Al, Ta, Al-Si, Al-Ta, Al-Zr, Al-Nd, Al-Pd, Al-W, Al-Ti, Al-Ti-B, AlSc, Al-Y, Al-Pt, and Al-Pa.

Claim 34: (Original) A process according to claim 31, wherein said anodically oxidized film is a barrier-type anodically oxidized film.

Claim 35: (Previously Presented) A process according to claim 31, wherein said semiconductor layer comprises a polycrystalline silicon.

U.S. Patent Serial No. 09/761,753

Claim 36: (Original) A process according to claim 31, wherein an initial current density at the time of executing the anodic oxidation is not smaller than 2.0 mA/cm² but is not larger than 3.0 mA/cm².

Claim 37: (Previously Presented) A process according to claim 31, wherein forming said gate electrodes comprises forming a gate electrode layer and patterning the gate electrode layer based on either ionic milling or dry-etching.

Claim 38: (Original) A process according to claim 31, wherein a masking resist is formed on said conducting layer and is post-baked at a temperature of not lower than 130°C, prior to forming said gate electrode.

Claims 39 and 40: (Canceled)